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EXAMINER

CHAU, COREY P

ART UNIT PAPER NUMBER

2615

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,097

Applicant(s)

ISVAN, OSMAN K.

Examiner

Corey P. Chau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-14,16-40 and 58-63 is/are pending in the application.
- 4a) Of the above claim(s) 6, 8-9, 17, 19, 20, and 61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-4, 7, 10- 14, 16, 18, 21-40, 58-60, and 62 is/are rejected.
- 7) ☒ Claim(s) 5 and 63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/16/2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 14, 16, 18, 21-40, 58-60, and 62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Claim 14 recites "sensitivity control means, coupled to the boom, for **maintaining** a ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing point independently of the position of the boom", however the specification discloses "According to one aspect of the present invention, an apparatus

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capable of providing an output signal in response to sound pressure in the vicinity of a desired source operates in multiple modes corresponding to different positions of a movable boom, such that the ratio of the amplitude of the output signal to the amplitude of sound pressure in the vicinity of the desired source remains substantially independent of the operating mode. This is accomplished by changing the ratio of the amplitude of the output signal to the amplitude of sound pressure at the acoustic sensing point in response to the position of the boom". Therefore, the specification does not disclose *maintaining* a ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing point independently of the position of the boom as recited in the claim. The specification discloses *changing* the ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing point independently of the position of the boom in order to *maintain* a ratio of the amplitude of the output signal to an amplitude of sound pressure in the vicinity of the desired acoustic source independently of the position of the boom. Therefore the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 21, 39, and 58 are rejected for the reasons stated above regarding claim 14. Claim 16, 18, 22-40, 59-60, and 62 are rejected for depending on the rejected claims above.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 58-60 and 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 58, recites "means for maintaining the signal amplitude ratio independently of the position of the secondary boom", which is unclear to the examiner what "the signal amplitude ratio" is referring to. Claims 59-60, and 62 are rejected for being dependent on a rejected claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 58 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5761298 to Davis et al. (hereafter as Davis).

10. Regarding Claim 58, as best understood with regards to the 112, 1st problem mentioned above, Davis discloses an apparatus capable of providing output signals in response to acoustic signals, including acoustic signals received from a desired acoustic source (Fig. 1), the apparatus comprising:

a main body (Fig. 1);

a microphone housed in the main body (102);

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a primary boom (16), coupled to the main body; and

a secondary boom (20) slidably coupled to the primary boom and having an opening at a distal end thereof, the opening being acoustically coupled to the microphone, wherein the ratio of an amplitude of the output signal to an amplitude of acoustic signals received at the opening of the secondary boom is a function of at least the position of the secondary boom (Figs. 1, and 3A-3B); and

means for maintaining the signal amplitude ration independently of the position of the secondary boom (Figs. 1, and 3A-3B).

11. All elements of Claim 60 are comprehended by Claim 58. Claim 60 is rejected for the reasons stated above apropos to Claim 58 (Figs. 1, and 3A-3B).

12. Claims 58, 59 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4020297 to Brodie.

13. Regarding Clam 58, as best understood with regards to the 112, 1st problem mentioned above, Brodie discloses an apparatus capable of providing output signals in response to acoustic signals, including acoustic signals received from a desired acoustic source (Fig. 1), the apparatus comprising:

a main body (Fig. 1);

a microphone housed in the main body (18);

a primary boom (column 2, lines 24-34 and lines 56-68), coupled to the main body; and

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a secondary boom (column 2, lines 24-34 and lines 56-68) slidably coupled to the primary boom and having an opening at a distal end thereof, the opening being acoustically coupled to the microphone, wherein the ratio of an amplitude of the output signal to an amplitude of acoustic signals received at the opening of the secondary boom is a function of the position of the secondary boom (Fig. 1); and

means for maintaining the signal amplitude ration independently of the position of the secondary boom (Fig. 1).

14. Regarding Claim 59, as best understood with regards to the 112, 1st problem mentioned above, Brodie discloses the primary boom is movably coupled to the main body; and the ratio of the amplitude of the output signal to the amplitude of the received acoustic signal is a function of the positions of both the primary boom and the secondary boom (Fig. 1; column 2, lines 24-34 and lines 56-68)

15. All elements of Claim 60 are comprehended by Claim 58. Claim 60 is rejected for the reasons stated above apropos to Claim 58 (Figs. 1, and 3A-3B).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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17. Claims 14, 16, 18, 21, 23-24, 26, 39, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5761298 to Davis in view of U.S. Patent N. 5359157 to Liu.

18. Regarding Claim 14, as best understood with regards to the 112, 1st problem mentioned above, Davis discloses an apparatus capable of providing an output signal in response to sound pressure in the vicinity of a desired acoustic source (Fig. 1), the apparatus comprising:

- a main body (Fig. 1);

- a boom (20), movably coupled to the main body and adapted to be positioned in at least a first position or a second position (Fig. 1);

- a microphone (102);

- an acoustic sensing point, acoustically coupled to the microphone, wherein the acoustic sensing point is disposed at different distances from the desired acoustic source when the boom is in the first position and the second position (Figs. 1 and 3A-3B); and

- sensitivity control means, coupled to the boom, for maintaining a ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing point independently of the position of the boom (Figs. 1 and 3A-3B).

Davis discloses a microphone, but only generally; no specific hardware is taught. Therefore it would have been obvious to one having ordinary skill in the art to seek known microphones. Liu for example, discloses a microphone comprising a diaphragm. It would have been obvious to one having ordinary skill in the art to employ any known

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microphones, such as that of Liu. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Davis with the teaching of Liu to utilize a microphone comprising a diaphragm.

19. Regarding Claim 16, as best understood with regards to the 112, 1st problem mentioned above, Davis as modified discloses the sensitivity control means is adapted to change a sensitivity of the microphone in response to the position of the boom, wherein the microphone sensitivity is a ratio of an amplitude of an electrical signal converted by the microphone from sound pressure at the diaphragm to an amplitude of the sound pressure (Figs. 1 and 3A-3B).

20. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 18 are comprehended by Claim 14. Claim 18 is rejected for the reasons stated above apropos to Claim 14.

21. As best understood with regards to the 112, 1st problem mentioned above, Claim 21 is essentially similar to Claim 14 and is rejected for the reasons stated above apropos to Claim 14 (Figs. 1 and 3A-3B).

22. Regarding Claim 23, as best understood with regards to the 112, 1st problem mentioned above, Davis as modified discloses the boom is slidably coupled to the main body so as the extended from the main body and closer to the desired acoustic source in the first position, and retracted towards the main body in the second position; and the microphone receives acoustic signals through the first opening located at a distal end of the boom when the boom is in each of the first and second position (Fig. 1).

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23. Regarding Claim 24, as best understood with regards to the 112, 1st problem mentioned above, Davis as modified discloses the main body includes a boom jacket; and the boom is slidably coupled to the boom jacket (Fig. 1).

24. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 26 are comprehended by Claim 21. Claim 26 is rejected for the reasons stated above apropos to Claim 21.

25. As best understood with regards to the 112, 1st problem mentioned above, Claim 39 is essentially similar to Claim 14 and is rejected for the reasons stated above apropos to Claim 14 (Figs. 1 and 3A-3B).

26. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 40 are comprehended by Claim 39. Claim 40 is rejected for the reasons stated above apropos to Claim 39.

27. Regarding Claim 62, as best understood with regards to the 112, 1st problem mentioned above, Davis as modified does not expressly disclose the secondary boom comprises a steel tube. However, the Examiner takes Official Notice that it would have been obvious to one having ordinary skill in the art to utilize any known material such as steel in order to obtain the desired output. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Davis to utilize any known material such as steel in order to obtain the desired output.

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28. Claims 14, 16, 18, 21, 23-24, 26, 30-34, 36, 39, 40, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4020297 to Brodie in view of U.S. Patent N. 5359157 to Liu.

29. Regarding Claim 14, as best understood with regards to the 112, 1st problem mentioned above, Brodie discloses an apparatus capable of providing an output signal in response to sound pressure in the vicinity of a desired acoustic source (Fig. 1), the apparatus comprising:

- a main body (Fig. 1);

- a boom, movably coupled to the main body and adapted to be positioned in at least a first position or a second position (Fig. 1);

- a microphone (18);

- an acoustic sensing point (Fig. 1; column 2, lines 56-68), acoustically coupled to the microphone, wherein the acoustic sensing point is disposed at different distances from the desired acoustic source when the boom is in the first position and the second position; and

- sensitivity control means, coupled to the boom, for maintaining a ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing point independently of the position of the boom (Fig. 1).

Brodie discloses a microphone, but only generally; no specific hardware is taught. Therefore it would have been obvious to one having ordinary skill in the art to seek known microphones. Liu for example, discloses a microphone comprising a diaphragm. It would have been obvious to one having ordinary skill in the art to employ

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any known microphones, such as that of Liu. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Brodie with the teaching of Liu to utilize a microphone comprising a diaphragm.

30. Regarding Claim 16, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the sensitivity control means is adapted to change a sensitivity of the microphone in response to the position of the boom, wherein the microphone sensitivity is a ratio of an amplitude of an electrical signal converted by the microphone from sound pressure at the diaphragm to an amplitude of the sound pressure (Fig. 1).

31. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 18 are comprehended by Claim 14. Claim 18 is rejected for the reasons stated above apropos to Claim 14.

32. As best understood with regards to the 112, 1st problem mentioned above, Claim 21 is essentially similar to Claim 14 and is rejected for the reasons stated above apropos to Claim 14 (Fig. 1).

33. Regarding Claim 23, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the boom is slidably coupled to the main body so as the extended from the main body and closer to the desired acoustic source in the first position, and retracted towards the main body in the second position; and the microphone receives acoustic signals through the first opening located at a distal end of the boom when the boom is in each of the first and second position (Fig. 1; column 2, lines 24-34 and lines 56-68).

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34. Regarding Claim 24, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the main body includes a boom jacket; and the boom is slidably coupled to the boom jacket (Fig. 1).

35. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 26 are comprehended by Claim 21. Claim 26 is rejected for the reasons stated above apropos to Claim 21.

36. Regarding Claim 30, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the boom comprises at least a first segment and a second segment movably coupled to the first segment, so as to provide the first position wherein the first segment is extended from the main body and the second segment is extended from the first segment, both being extended closer to the desired acoustic source, and to provide the second position wherein the first segment and the second segment are both retracted towards the main body (Fig. 1); and the microphone receives acoustic signal through the first opening located at a distal end of the second segment of the boom when the boom is in each of the first and second position (Fig. 1; column 2, lines 56-68; column 3, lines 9-19).

37. Regarding Claim 31, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the first segment of the boom is slidably coupled to the main body (Fig. 1).

38. Regarding Claim 32, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the first segment of the boom pivots about the main body (Fig. 1).

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39. Regarding Claim 33, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the second segment of the boom is slidably coupled to the first segment (Fig. 1).

40. Regarding Claim 34, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified discloses the second segment of the boom pivots about the first segment (Fig. 1; column 2, lines 24-34).

41. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 36 are comprehended by Claim 14. Claim 36 is rejected for the reasons stated above apropos to Claim 14.

42. As best understood with regards to the 112, 1st problem mentioned above, Claim 39 is essentially similar to Claim 14 and is rejected for the reasons stated above apropos to Claim 14.

43. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 40 are comprehended by Claim 39. Claim 40 is rejected for the reasons stated above apropos to Claim 39.

44. Regarding Claim 62, as best understood with regards to the 112, 1st problem mentioned above, Brodie as modified does not expressly disclose the secondary boom comprises a steel tube. However, the Examiner takes Official Notice that it would have been obvious to one having ordinary skill in the art to utilize any known material such as steel in order to obtain the desired output. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Brodie as

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modified to utilize any known material such as steel in order to obtain the desired output.

45. Claims 1, 3-4, 7, 10-14, 16, 18, 21-22, 25-30, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5276916 to Pawlish et al. (hereafter as Pawlish) in view of U.S. Patent N. 5359157 to Liu.

46. Regarding Claim 1, Pawlish discloses an apparatus capable of providing an output signal in response to sound pressure in the vicinity of a desired acoustic source, the apparatus comprising:

- a main body (Figs. 1-2 and 4; column 2, lines 28-35);

- a boom, movably coupled to the main body and adapted to be positioned in at least a first position or a second position (Figs. 1 and 2);

- a microphone (Figs. 1-2 and 4; column 2, lines 40-44; column 3, lines 57-66);

- an acoustic sensing point, acoustically coupled to the microphone, wherein the acoustic sensing point is disposed at different distances from the desired acoustic source when the boom is in the first position and the second position (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55); and

- a controller, coupled to the boom, for changing a ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing point in response to the position of the boom (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55);

wherein the controller is adapted to maintain a ratio of the amplitude of the output signal to an amplitude of a sound pressure in the vicinity of the desired acoustic source independently of the position of the boom (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

Pawlish discloses a microphone, but only generally; no specific hardware is taught. Therefore it would have been obvious to one having ordinary skill in the art to seek known microphones. Liu for example, discloses a microphone comprising a diaphragm. It would have been obvious to one having ordinary skill in the art to employ any known microphones, such as that of Liu. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pawlish with the teaching of Liu to utilize a microphone comprising a diaphragm.

47. Regarding Claim 3, Pawlish as modified discloses the controller is adapted to change an amplification gain in response to the position of the boom, wherein the amplification gain is a ratio of the amplitude of the output signal to an amplitude of an electrical signal converted by the microphone from sound pressure at the diaphragm (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

48. Regarding Claim 4, Pawlish as modified discloses the controller is adapted to change a sensitivity of the microphone in response to the position of the boom, wherein the microphone sensitivity is a ratio of an amplitude of an electrical signal converted by the microphone from sound pressure at the diaphragm to an amplitude of the sound pressure at the diaphragm (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

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49. Regarding Claim 7, Pawlish as modified discloses the controller is adapted to change a ratio of an amplitude of sound pressure at the diaphragm to the amplitude of the sound pressure at the acoustic sensing point in response to the position of the boom (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

50. Regarding Claim 10, Pawlish as modified does not expressly disclose the apparatus is a communication headset. However, the Examiner takes Office Notice that it is that it would have been obvious to one having ordinary skill in the art to utilize the apparatus as a communication headset in order to allow desired configuration of a boom used to receive sound from the user of the communication headset with the desired output. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pawlish as modified to utilize the apparatus as a communication headset in order to allow desired configuration of a boom used to receive sound from the user of the communication headset with the desired output.

51. Regarding Claim 11, Pawlish as modified discloses the apparatus is a mobile phone (Figs. 1-2 and 4).

52. Regarding Claim 12, Davis does not expressly disclose the apparatus is a sound recorder. However, the Examiner takes Office Notice that it would have been obvious to one having ordinary skill in the art to utilize the apparatus as a sound recorder in order to allow desired configuration of a boom used to receive sound from the user of the sound recorder with the desired output. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pawlish as

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modified to utilize the apparatus as a sound recorder in order to allow desired configuration of a boom used to receive sound from the user of the sound recorder with the desired output.

53. Regarding Claim 13, Pawlish as modified does not expressly disclose the apparatus is a video camera. However, the Examiner takes Office Notice that it would have been obvious to one having ordinary skill in the art to utilize the apparatus as a video camera in order to allow desired configuration of a boom used to receive sound from the user of the video camera with the desired output. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pawlish as modified to utilize the apparatus as a video camera in order to allow desired configuration of a boom used to receive sound from the user of the video camera with the desired output.

54. As best understood with regards to the 112, 1st problem mentioned above, Claim 14 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1.

55. As best understood with regards to the 112, 1st problem mentioned above, Claim 16 is essentially similar to Claim 4 and is rejected for the reasons stated above apropos to Claim 4.

56. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 18 are comprehended by Claim 14. Claim 18 is rejected for the reasons stated above apropos to Claim 14.

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57. As best understood with regards to the 112, 1st problem mentioned above, Claim 21 is essentially similar to Claim 14 and is rejected for the reasons stated above apropos to Claim 14 (Fig. 1).

58. Regarding Claim 22, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses a switch, coupled to the main body and selectively engaged by the boom, that activates the controller circuit to change the ratio of the amplitude of the output signal to the amplitude of the acoustic signal at the diaphragm in response to the boom being in at least one of the first or second position (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

59. Regarding Claim 25, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the controller circuit changes an amplification gain applied to electrical signals converted by the microphone from acoustic signals received, wherein a first amplification gain is applied when the boom is in the first position and a second amplification gain is applied when the boom is in the second position, the first amplification gain being smaller than the second amplification gain (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

60. As best understood with regards to the 112, 1st problem mentioned above, all elements of Claim 26 are comprehended by Claim 21. Claim 26 is rejected for the reasons stated above apropos to Claim 21.

61. Regarding Claim 27, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the boom pivots about the main body; and, the microphone receive acoustic signals through the first opening when the boom

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is in the first position and through a second opening when the boom is in the second position, the first opening being located at a first distance from the desired acoustic source when the boom is in the first position and the second opening being located at a second distance from the desired acoustic source when the boom is in the second position, wherein the first distance is shorter than the second distance (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

62. Regarding Claim 28, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the controller circuit changes an amplification gain applied to electrical signals converted by the microphone from acoustic signals received, wherein a first amplification gain is applied when the boom is in the first position and a second amplification gain is applied when the boom is in the second position, the first amplification gain being smaller than the second amplification gain (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

63. Regarding Claim 29, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the controller circuit changes a sensitivity of the microphone to acoustic signals received, wherein the microphone has a first sensitivity when the boom is in the first position and a second sensitivity when the boom is in the second position, the first sensitivity being lower than the second sensitivity (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

64. Regarding Claim 30, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the boom comprises at least a first segment and a second segment movably coupled to the first segment, so as to provide

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the first position wherein the first segment is extended from the main body and the second segment is extended from the first segment, both being extended closer to the desired acoustic source, and to provide the second position wherein the first segment and the second segment are both retracted towards the main body; and the microphone receives acoustic signal through the first opening located at a distal end of the second segment of the boom when the boom is in each of the first and second position (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

65. Regarding Claim 32, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the first segment of the boom pivots about the main body (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

66. Regarding Claim 34, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the second segment of the boom pivots about the first segment (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

67. Regarding Claim 35, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the controller circuit changes an amplification gain applied to electrical signals converted by the microphone from acoustic signals received, wherein a first amplification gain is applied when the boom is in the first position and a second amplification gain is applied when the boom is in the second position, the first amplification gain being smaller than the second amplification gain (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

68. Regarding Claim 36, as best understood with regards to the 112, 1st problem mentioned above, Pawlish as modified discloses the controller circuit changes a

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sensitivity of the microphone to acoustic signals received, wherein the microphone has a first sensitivity when the boom is in the first position and a second sensitivity to acoustic signals received when the boom is in the second position, the first sensitivity being lower than the second sensitivity (Figs. 1-2 and 4; column 2, line 40 to column 3, line 55).

69. Claims 14, 21, 23, 24, 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20030003969 in view of U.S. Patent N. 5359157 to Liu .

70. Regarding Claim 14, as best understood with regards to the 112, 1st problem mentioned above, Tong discloses an apparatus capable of providing an output signal in response to sound pressure in the vicinity of a desired acoustic source, the apparatus comprising:

- a main body (Figs. 1, 3A-E, and 7; page 2, paragraph 0023);

- a boom, movably coupled to the main body and adapted to be positioned in at least a first position or a second position (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030);

- a microphone (Figs. 1, 3A-E, and 7; page 2, paragraph 0023);

- an acoustic sensing point, acoustically coupled to the microphone, wherein the acoustic sensing point is disposed at different distances from the desired acoustic source when the boom is in the first position and the second position (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030); and

sensitivity control means, coupled to the boom, for maintaining a ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing point independently of the position of the boom (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030).

Tong discloses a microphone, but only generally; no specific hardware is taught. Therefore it would have been obvious to one having ordinary skill in the art to seek known microphones. Liu for example, discloses a microphone comprising a diaphragm. It would have been obvious to one having ordinary skill in the art to employ any known microphones, such as that of Liu. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Tong with the teaching of Liu to utilize a microphone comprising a diaphragm.

71. As best understood with regards to the 112, 1st problem mentioned above, Claim 21 is essentially similar to Claim 14 and is rejected for the reasons stated above apropos to Claim 14.

72. Regarding Claim 23, as best understood with regards to the 112, 1st problem mentioned above, Tong as modified discloses the boom is slidably coupled to the main body so as the extended from the main body and closer to the desired acoustic source in the first position, and retracted towards the main body in the second position; and the microphone receives acoustic signals through the first opening located at a distal end of the boom when the boom is in each of the first and second position (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030).

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73. Regarding Claim 24, as best understood with regards to the 112, 1st problem mentioned above, Tong as modified discloses the main body includes a boom jacket; and the boom is slidably coupled to the boom jacket (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030).

74. Regarding Claim 30, as best understood with regards to the 112, 1st problem mentioned above, Tong as modified discloses the boom comprises at least a first segment and a second segment movably coupled to the first segment, so as to provide the first position wherein the first segment is extended from the main body and the second segment is extended from the first segment, both being extended closer to the desired acoustic source, and to provide the second position wherein the first segment and the second segment are both retracted towards the main body; and the microphone receives acoustic signal through the first opening located at a distal end of the second segment of the boom when the boom is in each of the first and second position.

75. Regarding Claim 31, as best understood with regards to the 112, 1st problem mentioned above, Tong as modified discloses the first segment of the boom is slidably coupled to the main body (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030).

76. Regarding Claim 32, as best understood with regards to the 112, 1st problem mentioned above, Tong as modified discloses the first segment of the boom pivots about the main body (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030).

77. Regarding Claim 33, as best understood with regards to the 112, 1st problem mentioned above, Tong as modified discloses the second segment of the boom is

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slidably coupled to the first segment (Figs. 1, 3A-E, and 7; page 2, paragraphs 0023 and 0028-0030).

78. Claims 14, 21, 30, 32, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6643528 to Shim et al. (hereafter as Shim) in view of U.S. Patent N. 5359157 to Liu.

79. Regarding Claim 14, as best understood with regards to the 112, 1st problem mentioned above, Shim discloses an apparatus capable of providing an output signal in response to sound pressure in the vicinity of a desired acoustic source, the apparatus comprising:

- a main body (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20);

- a boom, movably coupled to the main body and adapted to be positioned in at least a first position or a second position (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20);

- a microphone (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20);

- an acoustic sensing point, acoustically coupled to the microphone, wherein the acoustic sensing point is disposed at different distances from the desired acoustic source when the boom is in the first position and the second position (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20); and

- sensitivity control means, coupled to the boom, for maintaining a ratio of an amplitude of the output signal to an amplitude of sound pressure at the acoustic sensing

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point independently of the position of the boom (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20).

Shim discloses a microphone, but only generally; no specific hardware is taught. Therefore it would have been obvious to one having ordinary skill in the art to seek known microphones. Liu for example, discloses a microphone comprising a diaphragm. It would have been obvious to one having ordinary skill in the art to employ any known microphones, such as that of Liu. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shim with the teaching of Liu to utilize a microphone comprising a diaphragm.

80. As best understood with regards to the 112, 1st problem mentioned above, Claim 21 is essentially similar to Claim 14 and is rejected for the reasons stated above apropos to Claim 14.

81. Regarding Claim 30, as best understood with regards to the 112, 1st problem mentioned above, Shim as modified discloses the boom comprises at least a first segment and a second segment movably coupled to the first segment, so as to provide the first position wherein the first segment is extended from the main body and the second segment is extended from the first segment, both being extended closer to the desired acoustic source, and to provide the second position wherein the first segment and the second segment are both retracted towards the main body; and the microphone receives acoustic signal through the first opening located at a distal end of the second segment of the boom when the boom is in each of the first and second position (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20).

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82. Regarding Claim 32, as best understood with regards to the 112, 1st problem mentioned above, Shim as modified discloses the first segment of the boom pivots about the main body (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20).

83. Regarding Claim 34, as best understood with regards to the 112, 1st problem mentioned above, Shim as modified discloses the second segment of the boom pivots about the first segment (Figs. 1A-B and 7A-B; column 2, line 59 to column 3, line 20).

Allowable Subject Matter

84. Claims 5 and 63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

85. Applicant's arguments with respect to claims 1, 3-4, 7, 10-14, 16, 18, 21-40, 58-60 and 62 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

86. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 6778676 to Groth et al. discloses an acoustic transmission connection, headset with acoustic transmission connection, and uses of the acoustic transmission connection.

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U.S. Patent Application Publication No. 20020098877 to Glezerman discloses a boom actuated communication headset.


JP 11-308314 to Fumito discloses a telephone set.

87. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 13, 2006
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